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Delivering smart specialization in peripheral regions: the role of Universities

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Successful mobilization of the resources of universities can have a positive effect on regional economies; even more so in peripheral regions. The role of universities in regional development, innovation and growth comes into even sharper focus with the emergence of ‘smart specialization’ strategies, an *ex-ante* conditionality for accessing European Structural Funds from 2014. However, partnerships between universities and regions can fail to achieve their early ambitions, often due to a lack of understanding of each side’s drivers and barriers for cooperation. The collaboration between Region Värmland and Karlstad University in Sweden demonstrates a systemic and broad-based view of innovation that fits well within the policy framework of European and national innovation strategies. While recognizing the complexities and tensions inherent in such collaborations, this case study provides valuable insights for other European universities, regions and policy-makers in peripheral places that are seeking to work more closely to support smart specialization.

Keywords: universities; smart specialization; regional policy; regional innovation

Introduction

The importance of universities in supporting regional development and innovation has long been recognized (Organisation for Economic Co-operation and Development (OECD), 2005), particularly in less developed or peripheral regions which often lack the institutional ‘thickness’ of core regions (Asheim, Moodysson, & Tödtling, 2011; Tödtling & Trippel, 2005). In recent years there has been increased prominence given to the role of universities beyond ‘just’ the core roles of teaching and research towards a more developmental, capacity-building role in their local economies (Benneworth, Coenen, Moodysson, & Asheim, 2009; Gunasekara, 2006). This is seen as particularly critical in regions that otherwise may suffer from the innovation paradox of research from their universities leaking out to regions with higher levels of absorptive capacity (Oughton, Landabaso, & Morgan, 2002). These trends have been accelerated by the prevailing economic conditions since 2008 which have led to increasing demands from policy-makers for publicly funded institutions to demonstrate their value and contribution to social and economic development.

This enhanced and deeper role of universities in regional development is strongly reflected in recent strategy and policy at the European level, e.g. Europe 2020 (European Commission, 2010a) and its flagship initiatives such as Innovation Union

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(European Commission, 2010b). It is also being played out at national policy level in many European states as well as at the sub-national level, where local and regional governments are looking to their universities to support them in their drive for smart, sustainable and inclusive growth (EUA, 2014).

‘Smart specialization’ is the key underpinning concept governing European Structural Fund investments in research and innovation in the 2014–20 programming period, defined as a strategic approach to economic development through targeted support to research and innovation (Gianelle, 2012). Although universities have long been seen as important actors in regional innovation systems, smart specialization reinforces, amplifies and even deepens this role. To demonstrate the value of universities in challenging fiscal circumstances Goddard, Kempton, and Vallance (2013) outline their potential for roles beyond *just* contributing to the capacity to generate skills and knowledge. Looking at these roles through the lens of smart specialization, Kempton, Goddard, Edwards, Hegyi, and Elena-Pérez (2013) identified a number of areas where universities can play an active part in the development and delivery of a region’s smart specialization strategy.

However, this requires overcoming complex challenges and barriers for both universities and their partners outside the academy and the danger is that, according to Goddard, Kempton, and Vallance (2013), these issues are being ‘under problematized’ by policy-makers. One of these challenges is the pressure universities face from their national governments to focus their research around activities that are perceived as internationally excellent, which tends to be assessed in terms of publications in high-impact journals and ability to attract blue chip funding. For a discussion of the impact of this on Swedish universities, see Benneworth, de Boer, and Jongbloed (2015).

This paper looks at the specific case of the collaboration between the Swedish Region of Värmland and Karlstad University and explores the extent to which it demonstrates learning points that can be transferred and applied to other places.

The case study is based on material gathered during an evaluation of the collaboration programme in 2013. During the course of the evaluation interviews were conducted with 36 individuals, including university managers and professors, cluster group representatives and staff from the regional development agency. In addition, a wide range of academic and policy literature was reviewed, including European, national and regional strategies as well as evaluations of previous collaboration projects between the university and the region. The author was one of four researchers who worked on the project and also acted as overall project manager.

The paper begins by providing some background information about both the region of Värmland and Karlstad University, and describes the collaboration agreement between them. This is then analysed in the context of smart specialization and explores the extent to which this provides lessons for policy-makers, regions and universities in other peripheral regions.

Region Värmland and Karlstad University

The region of Värmland is located in western Sweden along the border with Norway (Figure 1). The region has a population of 273,000 and the capital city, Karlstad, has a population of around 85,000. In common with many peripheral regions, Värmland faces numerous socio-economic challenges such as low levels of research activity, an ageing population and relatively low levels of participation in higher education. While Värmland is economically developed in European terms, per capita gross domestic product



Figure 1. Location of Region Värmland.

Source: www.regionvarmland.se/.

(GDP) is the lowest of the Swedish regions (EUROSTAT, 2015) and it is in the bottom 5% of European regions for population density (OECD, 2013).

Recognition of the need for structural change and renewal of the regional economy resulted in a political agreement among the municipalities in 2001 which established a joint regional authority to promote economic and social development. The newly created authority began to evolve an approach based around key industry clusters in the area, with a prominent role for Karlstad University in the regional development system.

The strategy, which sets up priorities for cluster development for 2013–17 (Region Värmland, 2013a), can be seen as a sub-strategy to the broader regional development programme (Region Värmland, 2013b). These align well with both the Swedish national innovation strategy as well as European policies. As such the regional programme provides the mechanism for the integration of regional, national and European funds for

innovation and development such as the European Regional Development Fund (ERDF), European Social Fund (ESF) and Horizon 2020 research funding.

Karlstad University is one of the youngest universities in Sweden, gaining university status in 1999. It is home to the Service Research Centre (CTF), one of the world's leading interdisciplinary research centres focusing on service management and value creation through services.

The collaboration agreement

Between 2005 and 2007 Region Värmland and Karlstad University participated in an OECD initiative looking at the contribution of universities to regional development. One outcome of the study was the decision to sign a formal agreement for collaboration between the university and the region. The original agreement covered the period 2008–10 with a yearly grant framework of 4 million Swedish kronor (SEK).¹

In 2010 a new agreement was signed to run from 2010 to 2014. This was far more ambitious in scale and scope, with total financing of SEK150 million made up of equal contributions from the region, the university and external sources. Another significant development was the involvement of the region's four strategic cluster organizations (Figure 2) in the formulation of the agreement.

Over 20 projects have been initiated under the agreement, the most significant of which has been the '10 Professors' programme. This has resulted in the installation of eight new professorships in areas where the competency of the university and strategic priorities of the cluster organizations intersect. The remaining two professorships cover the cross-cutting areas of municipal school development and regional development (Figure 2).

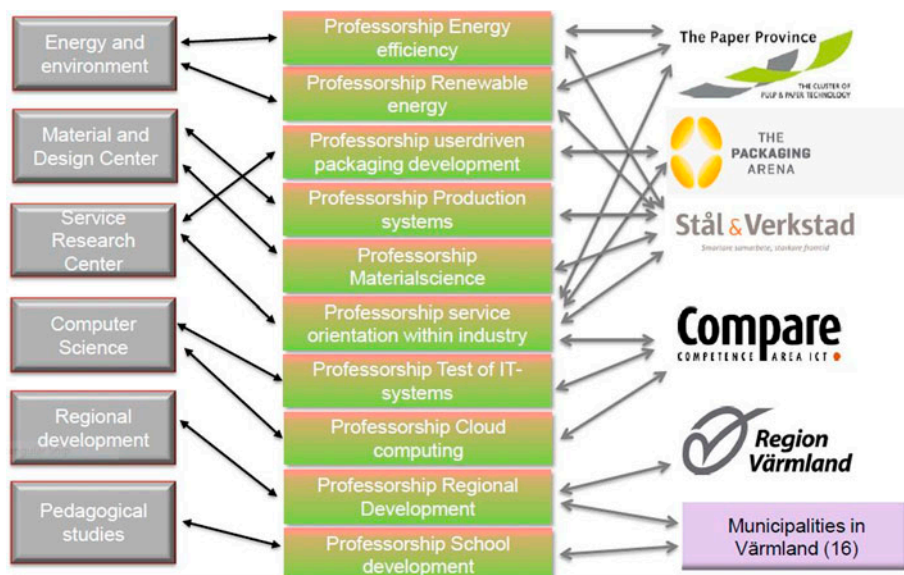


Figure 2. Structure of the '10 Professors' programme.
Source: Region Värmland.

Does this collaboration demonstrate the role universities can play in delivering regional smart specialization?

The increased involvement of the private sector in designing the 2010–14 agreement as well as a significant increase in funding for projects has helped ensure greater alignment with the needs and demands of key industries such as forestry, steel, engineering and information technology. One initiative has been the establishment of the ICT Testlab, a high-technology centre for independent software testing that has strengthened the region's competitiveness in the global market. However, universities need to strike a careful balance between the tensions of aligning their research with local needs and the (increasing) pressures to compete in a national and international arena. Universities need to source research funding and create partnerships from beyond their regional boundaries if they are to build and sustain their reputation. Marrying their fortunes too closely with those of their immediate hinterlands, especially where those places are in the periphery and lack world-class private and public sector innovation actors, could hamper their ambitions to become 'world class' institutions.

As in many peripheral regions across Europe, insufficient levels of absorptive capacity – the ability of firms to increase their innovation capability through valuing, assimilating and applying new information (Cohen & Levinthal, 1990) – in small and medium-sized enterprises (SMEs) is a critical issue in Värmland. 'Innovation Park' was launched in 2014 to provide a physical space on the university campus where businesses and researchers can meet and exchange knowledge, with specialist staff on-site to provide support. However, in designing programmes aimed at raising capacity within SMEs it should be borne in mind that those businesses that are most willing to participate might not always be synonymous with those most in need of support. A key challenge is to ensure that interventions go beyond the 'usual suspects' and include SMEs that have no previous history of working with universities or other innovation actors.

The collaboration has helped to underpin the institutional leadership and governance needed to support regional development and innovation with formal signed agreements, ensuring that even if personnel change the collaboration remains unaffected. The more prominent role afforded to private sector partners in designing the most recent agreement has been an important development. They are also now part of the formal management structure that oversees the collaboration and which played an active role in the recruitment process for the 10 professors. In establishing the leadership and governance structures for collaborative programmes across the 'triple helix' (i.e. academy, industry and government) partnership, it is critical that these are transparent and accountable, with clear objectives and publicly available information about activities and spending in order to avoid accusations of hijack by vested interests. The inclusion of partners from the wider civil society (now badged the 'quadruple helix' by policy-makers) would further enhance the reputation of such projects in achieving inclusive growth.

The collaboration has enabled businesses to access specialist research expertise. A survey of steel and engineering cluster members found that their collaborations with academia more than doubled between 2008 and 2009. This demonstrates success in building the capacity of businesses to engage with and absorb research. However, it is important to ensure there are effective and appropriate indicators in place that can benchmark and evaluate levels of absorptive capacity in order to provide robust evidence of positive change.

Karlstad University delivers a wide ranging teaching programme (over 900 programmes including master's and doctoral degrees). The cluster members have been

able to influence the design of bachelor's and master's degree programmes in order to ensure graduates leave university equipped with the skills needed by companies in the region. However, as with research, universities are also increasingly competing in national and global markets when recruiting staff and students. Striking a balance between the skills needs of local industries and the demands of students who may not be from the region is an ongoing challenge.

One of the most significant outcomes of the collaboration to date has been the award of SEK130 million to the Paper Province cluster group from Vinnova, the Swedish research and innovation agency, under a highly competitive national competition. The funds will be used to research, develop and commercialize new products and services in the bio-economy and forest industrial sector. All partners involved acknowledge that this outcome would have been unlikely without the existence of the collaboration agreement, which ensured the Paper Province had access to the university's expertise on forest and bio-industries and support from specialists in other areas such as service innovation. The cross-cutting role of the regional development professor was instrumental when managing the application development process. This is an important learning point as universities can neglect to mobilize their own expertise, especially in the social sciences, when it comes to designing and delivering programmes aimed at regional development.

Conclusions and learning points

In university–region collaborations certain types of intervention may be preferred simply because it is relatively easy to count the outputs, such as joint publications, patents registered or new businesses created. Interventions that build capacity to support longer-term outcomes are more difficult to define and measure. However, these are necessary in order to have a long-lasting and transformational effect on regional economies. Developing appropriate indicators to measure the impacts of these collaborations is therefore a key challenge.

Building absorptive capacity among non- or low-innovating SMEs is a 'wicked' problem for many regions, especially those in peripheral places where the research infrastructure may be weak. In the case of Region Värmland there have been significant efforts to address this issue. Firstly, the fact that there was a well-evidenced mutual understanding of the region's assets, needs and opportunities meant that interventions were designed to link to the most promising areas for innovation and growth in the local economy. Secondly, focusing on specific industry sectors and building research capacity in the university around their needs is starting to pay dividends in terms of developing the infrastructure for innovation in the region (e.g. ICT Testlab). Thirdly, a range of mechanisms have been developed that provide opportunities for companies and researchers to interact and collaborate. Finally, industry is playing an active role in shaping the delivery of higher education which will help to ensure a highly skilled future workforce.

It is important to note that this collaboration grew out of a process that began in 2005 with the participation in the OECD study. Mutual understanding of the long-term nature of the partnership and the lead times needed to meet key milestones has been an important factor. Regions lacking similar high levels of trust and understanding across the partnership will need to address this before they can expect to achieve significant results from their collaborations.

Policy-makers must acknowledge the tensions of geography between universities and their regions. While regional development organizations can contain their activities

within specific boundaries, universities are ‘leaky’ institutions, with highly mobile staff and student populations. Universities operate in national and international arenas for research, staff and student recruitment. This should be recognized as a key asset for the region. Trying to restrict the activities of universities to the needs of the immediate place would be to the advantage of neither. It should be accepted that some of the activities and outcomes will inevitably locate elsewhere and thus spill over regional geographic borders. However, this can also work to the advantage of regions as universities can act as magnets to draw knowledge, skills and networks into the local area from other places. The challenge is how to mobilize the strengths of the university effectively to support the region while building sufficient flexibilities to regional programmes to accept a certain amount of ‘leakage’ in activities beyond its geographic boundaries.

In conclusion, while aspects of the collaboration are specific to conditions in the region and are the result of a long-term process of building trust and understanding across the partnership, this case provides a number of important lessons other regions and their universities in designing their smart specialization strategies.

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Note

1. 1. SEK = €0.109. Source: XE.Com, 10 March 2015].

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